First, and with regard to the rejection of Claim 50 (now incorporated into Claim 47), Applicants respectfully submit that the allegation, in the Official Action, that it would have been obvious to one of ordinary skill in the art to rotate the structure of an insulating layer approximately 45° "because the rotated angle is an art recognized variable of importance which is subject to routine experimentation and optimization" is traversed, and if this position constitutes a taking of Official Notice, such taking is hereby seasonably challenged.

Applicants find absolutely no support in the Official Action for this position, nor is any reference or Declaration of the Examiner cited. Applicants thus respectfully submit that this rejection is wholly without merit, and it should be withdrawn or properly supported as directed in the MPEP.

With regard to the rejection over Onga in view of Cornett, Applicants respectfully submit that the combination of prior art does not teach the subject matter now claimed in Applicants' pending claims. That is, it is respectfully submitted that the combination of art, *going forward*, would not lead one of ordinary skill in the art to the various structures claimed. Rather, it is respectfully submitted that the claims at hand have been used as a guide, or a roadmap, and, *going back*, the Office has combined Onga and Cornett using Applicants' invention as motivation. This clearly is improper, as hindsight reconstruction of Applicants invention is not the statutory mandate of 35 U.S.C. §103. Rather, the references themselves must provide motivation for their combination, and for the changes made.

At page 6 of the Official Action the Office has taken the position that it would have been obvious to one of ordinary skill in the art "to form the second semiconductor (epitaxial layer) including a material having a higher resistivity than the first semiconductor layer as taught by Cornett et al into Onga et al's device to serve as an area for a space-charge or depletion layer in order to make the voltage variable capacitor functioning." Notably,

however, Cornett *preceded* Onga by several years, yet the Cornett technology was not included therein. It is improper to combine art in a manner that would significantly change or alter the underlying basic structure or function of a reference without independent motivation for so doing. Further, the Examiner's indication that the structure of Cornett would have made the voltage variable capacitor of Onga "functioning" indicates, again, that the Office is using the inventors' specification as motivation for combining the references.

Accordingly, and because even the combination of Onga and Cornett fail to teach or suggest, on their own, the presently claimed invention as described in the amended claims Applicants respectfully request the reconsideration and withdrawal of the outstanding rejection, and the passage of this case to Issue.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.

Richard L. Treanor
Attorney of Record
Registration No.: 36,379

22850
Telephone: (703) 413-3000
Facsimile (703) 413-2220

DOCKE T NO.: 214975US99

MARKED-UP COPY OF AMENDED CLAIM
IN THE U.S. PATENT AND TRADEMARK OFFICE

IN THE CLAIMS

Claims 8-15 (Canceled)

--16. (Amended) A semiconductor device, [including] comprising:

a semiconductor material;

a conductive element; [and]

a substantially monocrystalline insulator disposed between the semiconductor material and the conductive element; and

a high-resistivity layer disposed between the insulator and the semiconductor material.--

Claim 18 (Canceled)

--19. (Amended) A semiconductor device according to Claim [18] 16, wherein the high-resistivity layer is an epitaxial layer.—

--36. (Amended) A semiconductor device, comprising:

a semiconductor substrate and a conductive element; [and]

an insulating layer disposed between the semiconductor substrate and the conductive element, wherein the insulating layer includes a substantially monocrystalline material; and

a layer of semiconductor material having a higher resistivity than the semiconductor substrate disposed between the semiconductor substrate and the insulating layer.--

Claim 38 (Canceled)

--39. (Amended) A semiconductor device according to Claim [38] 36, wherein the higher resitivity layer is an epitaxial layer.--

--40. (Amended) The semiconductor device as described in Claim [38] 36, wherein the semiconductor device is a voltage variable capacitor.--

--47. (Amended) A voltage variable thin film capacitor, comprising:

a first semiconductor layer;

a second semiconductor layer of a higher resistivity semiconductive material formed on the first semiconductor layer;

an insulting layer formed on the second semiconductor layer comprising a thin film of substantially monocrystalline material; and

a conductive electrode formed on the insulating layer;

wherein the structure of the monocrystalline material is rotated approximately 45 degrees with respect to the structure of the at least one of the first or second semiconductor layers.--

Claim 50 (Canceled)